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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,642	09/21/2000	Hu Yang	2039,008200	9201

7590 03/13/2002
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EXAMINER

MULLIS, JEFFREY C

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 03/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/666,642

Applicant(s)

YANG ET AL.

Examiner

Jeffrey C. Mullis

Art Unit

1711

-- Th MAILING DATE of this communication appears on th c ver sh t with the correspondenc address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-115 is/are pending in the application.
- 4a) Of the above claim(s) 12-14, 16, 38-40, 42, 67-69, 81-83, 85, 99-101 and 114 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 15, 17-37, 41, 43-66, 70-80, 84, 86-98, 102-113 and 115 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) ✓
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Serial number 09/595410 is not a CIP of 09/575094 as stated in applicants' specification. Correction is required.

Applicants' election without traverse of the species of polymers or copolymers of vinylidene dichloride as well as applicants' polymers containing the structure I and a compatibilizer which is a block copolymer comprising PVDC in Paper No. 8 is acknowledged.

Applicants' Abstract is not in the form of a single paragraph and is longer than 15 lines and is not on a single page. Correction is required.

M Claims 1-11, 15, 17-37, 41, 43-66, 70-80, 84, 86-98, 102-113 and 115 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

M It is not clear what the entire scope of "oxygen scavenger polymer" is since any organic material will react with oxygen given enough time and therefore could be viewed as an oxygen scavenger.

The term "insoluble" as recited by at least claim 19 is unclear since solubility is a function on the material in which it is dissolved. For instance a material which is insoluble in water may be soluble in organic solvents. Since the solvent in

Art Unit 1711

which insolubility occurs is not recited, those claims reciting the term "insoluble" are unclear.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11, 15, 17-37, 41, 43-66, 70-80, 84, 86-98, 102-113 and 115 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Van Sleben et al. (USP 6,255,248) in view of Cahill et al. (USP 6,083,585).

Van Sleben et al. disclose a multilayer package (note the paragraph bridging columns 3 and 4) containing an oxygen scavenging polymer and a diluent polymer such as PVDC (note the paragraph bridging columns 3 and 4). The oxygen scavenger polymer includes 4-vinyl cyclohexene polymers at the paragraph bridging columns 13 and 14. Note comparative Example 31 at column 13 lines 50-55 which by itself would anticipate almost all of applicants' non-elected embodiments in that the styrene-butadiene block copolymer is an art recognized compatibilizer and

Art Unit 1711

furthermore functions as a scavenger and barrier polymer in the composition.

Only applicants' non-elected embodiments are under consideration and therefore Van Sleben et al. does not meet all the limitations of the claims in that applicants' specific combination of PVDC and 4-vinyl cyclohexene polymers are not disclosed. Furthermore the presence of cross-linked polymers are also not disclosed as oxygen scavengers.

Cahill et al. disclose a PET composition containing PET segments as well as polybutadiene segments. Note column 4 lines 33-58. Although not described as block copolymers, polymers containing segments of two different types of polymers are viewed in the art as block copolymers and therefore the materials of Cahill et al. embrace block copolymers whether or not the term "block" appears explicitly in Cahill et al. Note that the materials of Cahill et al. may be cross-linked at column 13 lines 1-3. The material may be blended with ordinary PET at column 19 lines 53-58.

With regard to the use of PVDC and 4-vinyl cyclohexene polymers and copolymers, choice of such would have been obvious to a practitioner having ordinary skill in the art at the time of the invention from the disclosure of the primary reference in the expectation of adequate results absent any showing of surprising or unexpected results.

With regard to the use of the block copolymers of the secondary reference including those embodiments of the secondary reference utilizing cross-linked oxygen scavengers (i.e. PET bonded with polybutadiene segments), it would have been obvious to a practitioner having ordinary skill in the art at the time of the invention to use these materials of the secondary reference in the primary reference since the secondary reference discloses that such materials have superior oxygen scavenging ability as compared to ordinary PET and absent any showing of surprising or unexpected results.

The instant claims would be allowable over the prior art if limited to compositions containing block copolymers containing PVDC segments. Applicants are requested to point out support for such an amendment if they choose to make such an amendment.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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Claims 1-11, 15, 17-37, 41, 43-66, 70-80, 84, 86-98, 102-113 and 115 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5-7, 9-22, 24-26, 28-50, 52-72 and 74-78 of copending Application No. 09/595,410. Although the conflicting claims are not identical, they are not patentably distinct from each other because the species of each application overlap and therefore choice on one specie over another would have been obvious in the expectation of adequate results.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 1-3, 28, 29, 72, 73, 75, 89 are provisionally rejected under 35

U.S.C. 101 as claiming the same invention as that of claims 1-3, 20, 22, 49, 50, 52 and 59 of copending Application No. 09/595410. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Matthews et al. (USP 6,254,804), cited of interest discloses oxygen scavenger compositions containing a polymer having a cyclohexene group or functionality. Note the Abstract. Note the use of PVDC diluent at column 11 line 5.

With regard to applicants' non-elected embodiments which have not yet been searched, it is noted that Cahill et al., relied upon above discloses that polymers having secondary and tertiary hydrogen atoms at column 5 lines 30-37 have oxygen scavenging potential. Therefore it is clear that a very wide range of polymers would have oxygen scavenging ability for at least the reason that tertiary and secondary hydrogen atoms are present in a wide range of polymers.

It is noted that the above secondary reference which is relied upon discloses a combination of PET as well as an oxygen scavenger polymer and an oxidation catalyst. Therefore the secondary reference alone would anticipate the non-elected embodiments of claim 1. It is also noted that the secondary reference furthermore discloses that cobalt is present in most commercially available PET samples at levels which may be

Serial No. 09/666,642

-8-

Art Unit 1711

significant enough to catalyze oxygen scavenging. Therefore it would appear to the Examiner that large numbers of prior art PET blends may anticipate the claims in which the blend contains a polymer having secondary or tertiary hydrogen atoms on a hydrocarbon polymer. As of yet, however, the search has not been extended to PET.

Any inquiry concerning this communication should be directed to Jeffrey Mullis at telephone number (703) 308-2820.

J. Mullis:cdc

March 5, 2002

Jeffrey Mullis
Primary Examiner
Art Unit 1711

A handwritten signature in black ink, appearing to be 'JM', is written over the printed name and title of the examiner.